Service Manual

Auto Washer

Model : DWF-216SP

• Caution:
In this Manual, some parts can be changed for improving, their performance without notice in the parts list. So, if you need the latest parts information, please refer to PPL(Parts Price List) in Service Information Center (http://svc.dwe.co.kr).

DAEWOO ELECTRONICS

http : //svc.dwe.co.kr Feb. 2006

AUTO WASHER AUTO WASHER AUTO WASHER

1. SPECIFICATIONS

NO.	ITEM		DWF-176S	
1	POWER SOURCE		AVAILABLE IN ALL LOCAL AC VOLTAGE AND CYCLE	
2	POWER CONSUMPTION		50Hz	430W
			60Hz	530W
3	MACHINE WEIGHT		NON-PUMP	42Kg
			PUMP	43Kg
4	DIMENSION (WXHXD)		598 X 956 X 643	
5	WASHING COURSE		FULL AUTOMATIC 5 COURSE (NORMAL, BLANKET, ECONOMY, SUIT, SOAK)	
6	WATER CONSUMPTION		207 L	
7	WATER LEVEL SELECTOR		HIGH	88 L
			MEDIUM +	81 L
			MEDIUM	75 L
			LOW +	68 L
			LOW	61 L
			SMALL +	54 L
			SMALL	48 L
8	OPERATING WATER PRESSURE		0.3kgf/cm^2~8kgf/cm^2 (2.94 N/cm^2~78.4N/cm^2)	
9	REVOLUTION PER MINUTE	50Hz	WASH : 125 - 140 RPM, SPIN : 640 - 675 RPM	
		60Hz	WASH : 130 - 150 RPM, SPIN : 710 -140 RPM	
10	PULSATOR		6 WINGS (Ø376mm)	
11	WATER LEVEL CONTROL		ELECTRONICAL SENSOR	
12	GEAR MECHANISM ASS'Y		HELICAL GEAR	
13	LINT FILTER		O	
14	SOFTENER INLET		O	
15	FUNCTION OF SOAK WASH		O	
16	ALARM SIGNAL		O	
17	RESIDUAL TIME DISPLAY		O	
18	AUTO. WATER SUPPLY		O	
19	FUNCTION OF RADICAL AND BUBBLE		O	
20	AUTO RE-FEED WATER		O	
21	AUTO POWER OFF		O	

NOTE

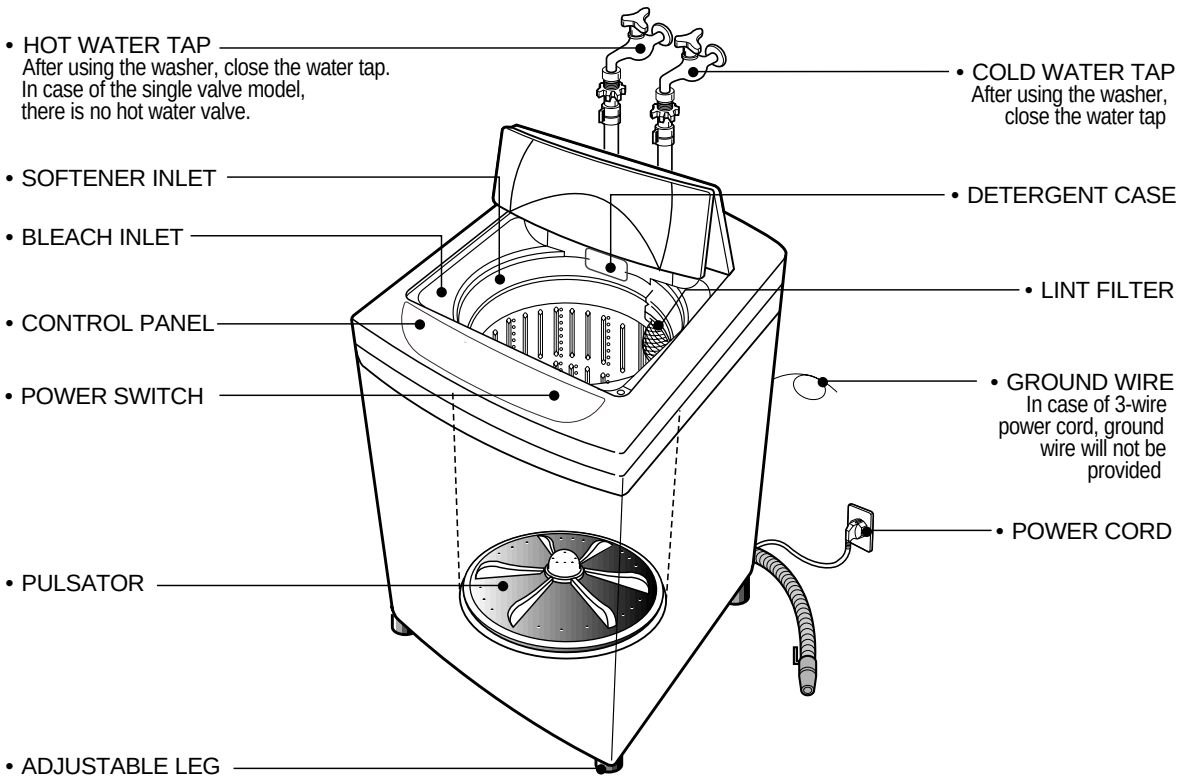
• In case of SMALL +, LOW+, MEDIUM+ water level, the LED of SMALL & LOW, LOW & MEDIUM, MEDIUM & HIGH are turned on respectively and simultaneously.

2. STRUCTURE OF THE WASHING MACHINE

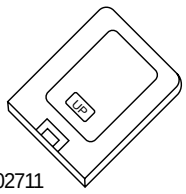
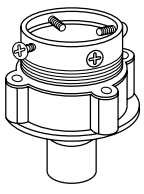
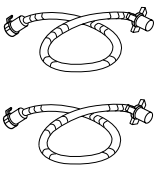
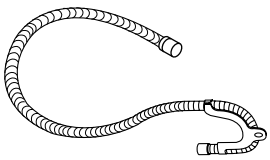
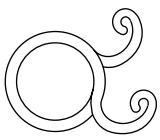
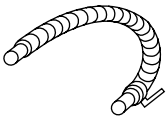
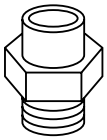
The parts and features of your washer are illustrated on this page.
Become familiar with all parts and features before using your washer.

NOTE

- The drawing in this book may vary from your washer model. They are designed to show the different features of all models covered by this book, Your model may not include all features.



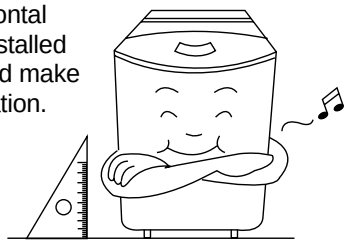
Accessories

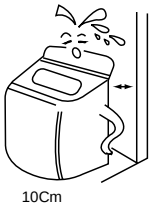
DRYTEN	COVER UNDER [OPTION]	WATER TAP ADAPTER	INLET HOSE
	 3611402711		
HOSE DRAIN [FOR PUMP]	**HOSE DRAIN CLAMP**	**HOSE DRAIN[FOR NONPUMP]**	**CONNECTOR INLET [OPTION]**
 361321880		 3613213500	

3. DIRECTIONS FOR INSTALLATION AND USE

INSTALLING PLACE

Install the washer on a horizontal solid floor. If the washer is installed on an unsuitable floor, it could make considerable noise and vibration.





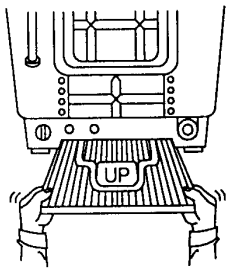
Keep the machine body more than 25cm apart from the wall surface. It will make easy cleaning the drain filter which is equipped at the back side of it. And if it comes into contract vibration may occur.

Never install in these

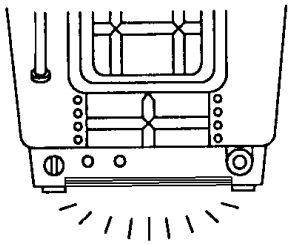
- The place where it would be exposed to direct sunlight.
- The place nearby a heater or heat appliance.
- The place where it would be supposed to be frozen in winter.
- The kitchen with coal gas and a damp place like a bathroom.

INSTALLATION OF THE UNDER BASE COVER [OPTION]

1 The packing box opened, there is a noise insulation plate at the bottom of the back



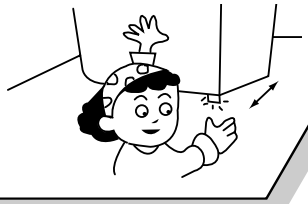
2 Push the noise insulation plate into the end, which decrease the noise made by this washer.



HOW TO INSTALL ON AN INCLINED PLACE

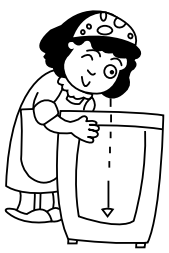
1 Horizon Setting

After controlling the height by turning the adjustable leg, let the washer put down to the ground.



2 Check the Horizon Status

Check the position of tub above the center of the washer.



NOTES

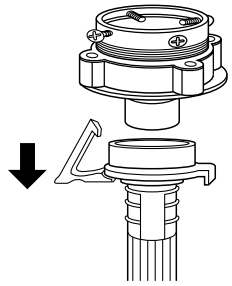
The openings must not be obstructed by carpeting when the washing machine is installed on a carpeted floor.

HOW TO CONNECT THE INLET HOSE

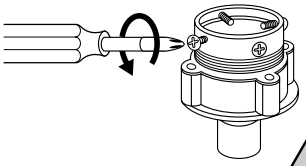
Be careful not to mistake in supplying between the hot(maximum : 50˚C) and cold water.
In using only one water tap or in case of attached one water inlet valve, connect the inlet hose to the cold water inlet valve.
Do not over tighten : this could cause damage to couplings.

• • • • FOR ORDINARY TAP

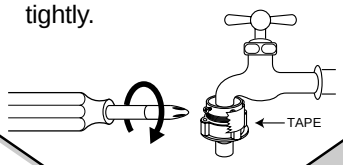
1 Pull down the collar of the inlet hose to separate it from the water tap adapter.



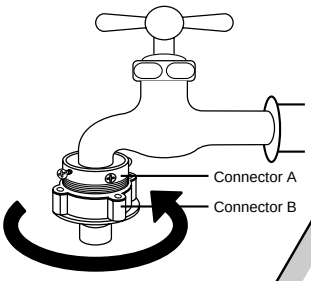
2 Loosen the four screws at the water tap adapter, but don't loosen the screws until they are separated from the water tap adapter.



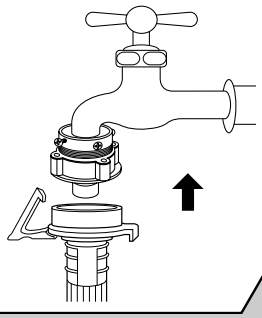
3 Connect the water tap adapter to the water tap tighten the four screws evenly while pushing up the adapter so that the rubber packing can stick to the water tap tightly.



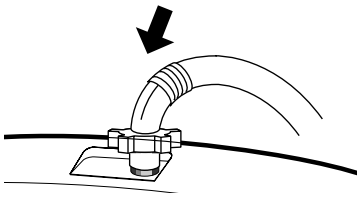
4 Remove the tape, and screw connector B into connect A tightly.



5 Connect the inlet hose to the water tap adapter by puling down the collar of the hose end.



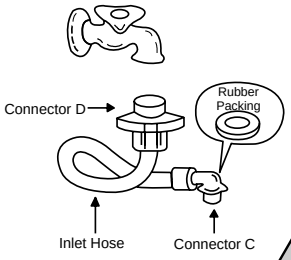
6 Connect the inlet hose adapter of the hose to the water inlet of the washer by turning it clockwise to be fixed tightly.



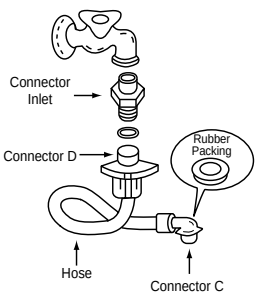
• Please check the rubber packing inside the inlet hose adapter of the hose.

• • • • FOR SCREW-SHAPED TAP

1 Connect the inlet hose to the water tap by screwing the connector D tightly.



2 Connect the connector-inlet supplied if necessary.



3 Insert the inlet hose adapter into the water inlet of a washer and turn it to be fixed.

• Assert the packing in the inlet

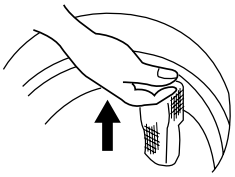
HOW TO CLEAN THE FILTER

• • • • CLEANING THE LINT FILTER

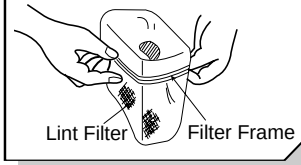
• This washer has two type of Lint Filter in order to increase lint filtering performance.

Type I : It is assembled in the top area of Tub.

1 Pull the Filter frame upward.



2 Turn the lint filter inside out, wash to the lint off with water.



3 Return the filter as it was, and insert the filter frame into the slot.

Type II : It is assembled in the middle area of Tub.

1 Pull the button with pressing downward.

2 Open the Cover and get rid of lint being the Inside of Filter then close the Cocer.

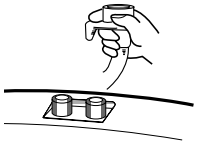
3 Assemble the Lint Filter as it was, by pushing toward wall with fixing slot

• • • • CLEANING THE WATER INLET FILTER

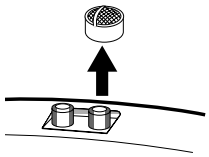
• Clean the filter when water leaks from, the water inlet.

1 Pull the power plug out before cleaning it.

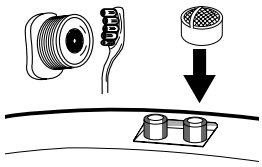
2 Turn off the water supply to the washer and sperate the inlet hose.



3 Pull the inlet filter out.



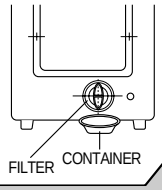
4 Remove the dirt from the inlet filter with a brush.



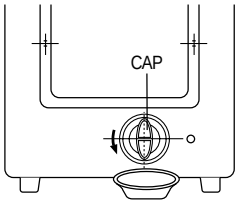
• • • • CLEANING THE DRAIN FILTER

- In case “U” shape drain hose, this filter’s equipped at the back side of washer.
- This drain filter is to screen the foreign stuffs such as threads, coins, pins, buttons etc ...
- If the drain filter is not cleaned at proper time (every 10 times of use), Drain problem could be caused.

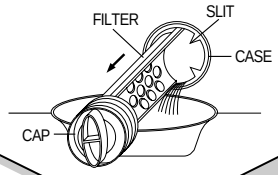
1 Put down the remained water in the hose. And put a container under the filter to collect water.



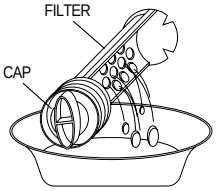
2 Turn the cap counter clockwise.



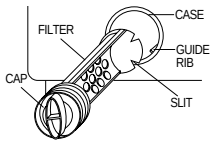
3 Pull out the filter assembly off the case of the main body.



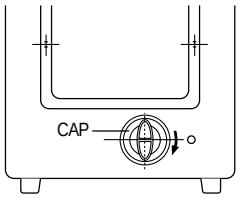
4 Clean the drain filter removing the foreign stuffs.



5 Put in the filter along the guiding prominence of the case. Please note the left position of the filter adjusting the groove to the guide rib.



6 Turn the cap clockwise tightly.



4. FEATURE AND TECHNICAL EXPLANATION

FEATURE OF THE WASHING MACHINE

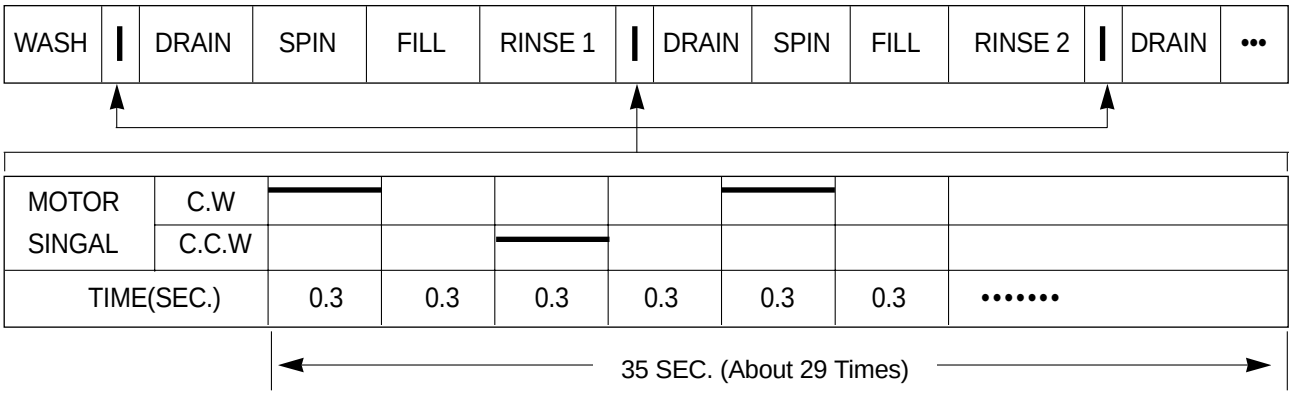
① The first applying Radical Technology in the world....go beyond washing, sterilize your clothes and deodorize a bad smell.(optional function)
② The first air bubble washing system in the world.
③ Quiet washing through the innovational low-noise design.
④ The wash effectiveness is much more enhanced because of the air bubble washing system.
⑤ The laundry detergent dissolves well in water because of the air bubble washing system.
⑥ The adoption of the water currents to adjust the unbalanced load.
⑦ One-touch operation system.

WATER CURRENT TO ADJUST THE UNBALANCED LOAD

It is a function to prevent eccentricity of the clothes after wash by rotating pulsator C.W and C.C.W for 35 seconds.(But, the SUIT course have no operation of the water currents to adjust the unbalnced load.)

EFFECT
It reduces vibration and noise effectively while spinning.

WATER FLOW



FUNCTION FOR SOAK WASH

DISPLAY THE RESIDUAL TIME
When the SOAK WASH is selected, the total wash time increases because 60 minutes for soak process are added to the time of main process.

PROGRESS

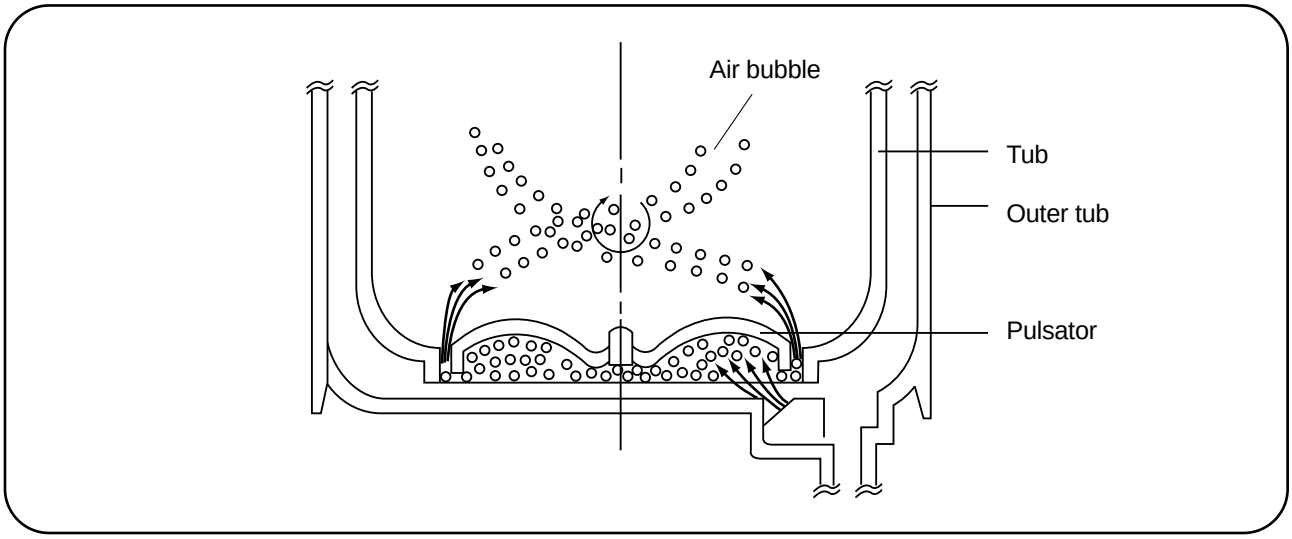
NOTES ‘ | ’ mark indicates the operation of the water currents to adjust the unbalanced load.

AUTOMATIC WATER SUPPLY SYSTEM FOR BLANKET WASH

The water level would be lowered because the blanket absorbs water at the beginning of washing. Therefore, after 2 minutes, the operation is interrupted to check the water level, and then the water is supplied again until the selected water level is reached.

FUNCTIONAL PRINCIPLE OF BUBBLE WASHING MACHINE

ACROSS SECTION



FUNCTIONAL PRINCIPLE

Bubble Motor supplies the air from the bottom of outer tub to the inner space of pulsator, the air is dispersed by the rotation of pulsator. Air-bubble is created by the centrifugal force, and rises up.

AUTOMATIC DRAINNING TIME ADJUSTMENT

This system adjusts the draining time automatically according to the draining condition.

Draining condition	Good draining	The washer begins spin process after drainage.
	Bad draining	Draininig time is prolonged.
	No draining	Program is stopped and gives the alarm.

FUNCTIONAL PRINCIPLE

① The micom can remember the time from the begining of drain to reset point when the pressure switch reaches to "OFF" point

Drain Time	Movement of the Program
Less than 15 minutes	Continue draining
More than 15 minutes	Program stops and gives the alarm with **dE** blinked on display lamp.

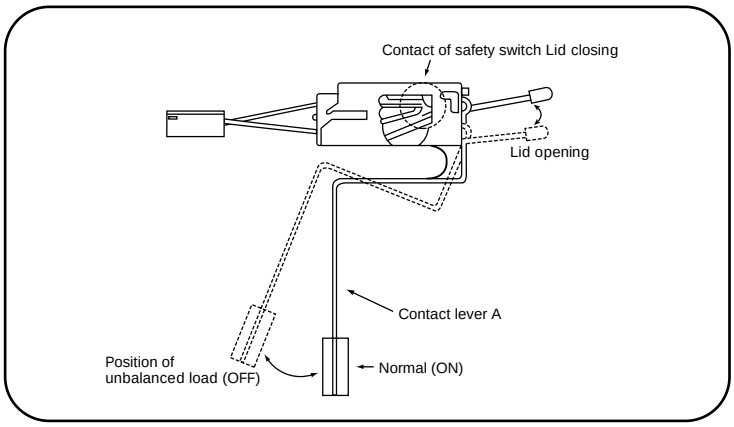
② In case of continuous draining, residual drain time is determined by micom.
Draining time as a whole = D + 90
D: Residual drain time.
90: The time remembered by micom.

AUTOMATIC UNBALANCE ADJUSTMENT

This system is to prevent abnormal vibration during intermittent spin and spin process.

FUNCTIONAL PRINCIPLE

① When the lid is closed, the safety switch contact is “ON” position.
② In case that wash loads get uneven during spin, the outer tub hits the safety switch due to the serious vibration, and the spin process is interrupted.
③ In case that P.C.B. ASS’Y gets “OFF” signal from the safety switch, spin process are stopped and rinse process is started automatically by P.C.B. ASS’Y.
④ If the safety switch is operated due to the unbalance of the tub, the program is stopped and the alarm is given.



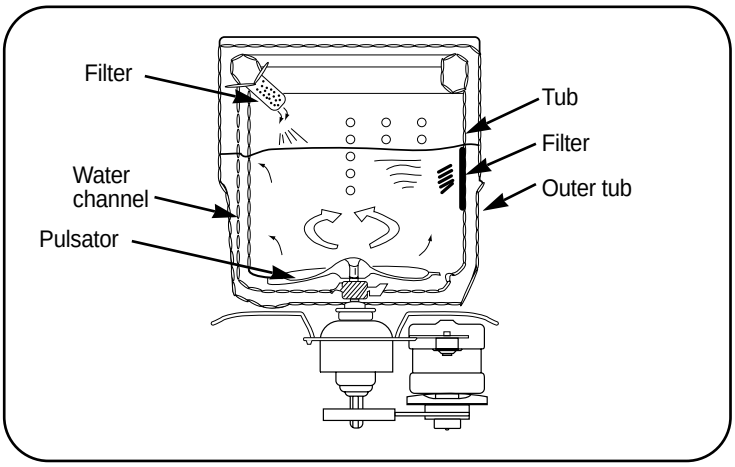
NOTES

The alarm finished when you close the lid after opening it. Check the unbalance of the wash load and the installation condition.

CIRCULATING-WATER COURSE AND LINT FILTER

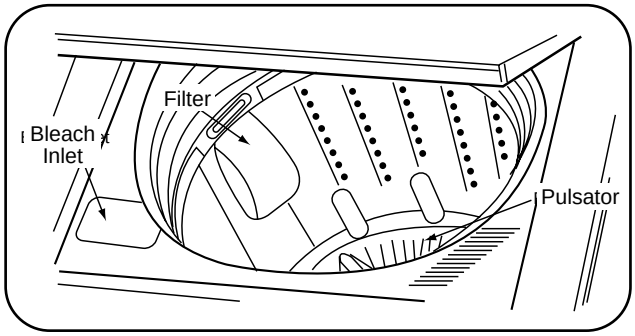
CIRCULATING-WATER

The washing and rinsing effects have been improved by adopting the water system in which water in the tub is circulated in a designed pattern.
When the pulsator rotates during the washing or rinsing process, the water below the pulsator fans creates a water currents as shown in figure.
The water is then discharged from the upper part of the tub through the water channel. About 40 L/min. water is circulated at the ‘high’ water level, standard wash load and standard water currents.



LINT FILTER

Much lint may be obtained according to the kind of clothes to be washed and some of the lint may also sticks to the clothes.
To minimize this possibility a lint filter is provided on the upper part of the tub to filter the wash water as it is discharged from the water channel. It is good to use the lint filter during washing.



HOW TO REPLACE LINT FILTER

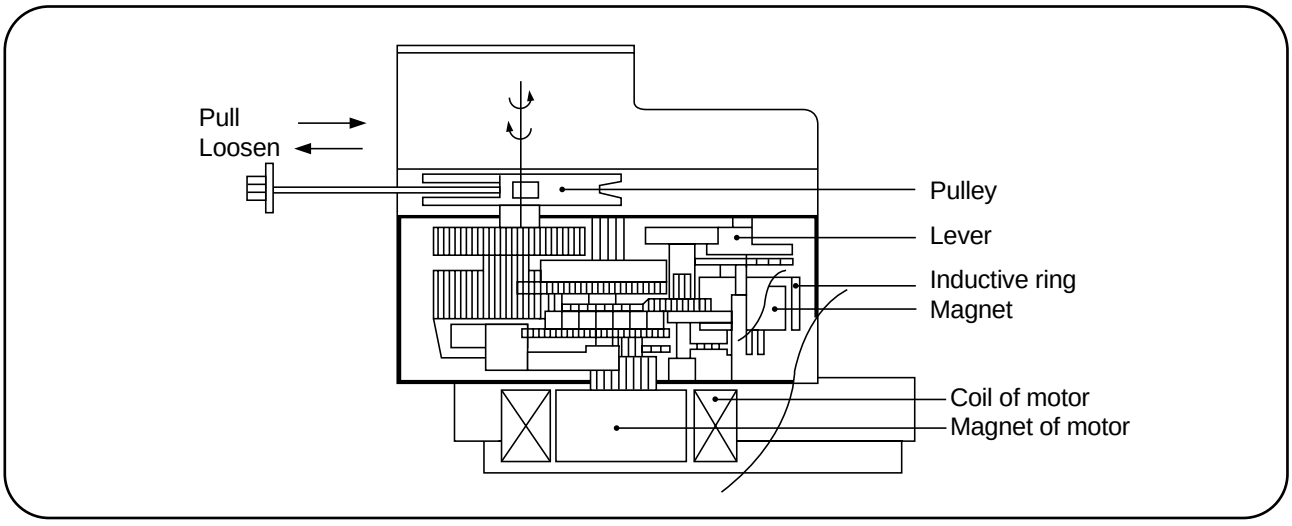
① Pull the filter frame upward.
② Turn the lint filter inside out, and wash the lint off with water.
③ Return the filter as it was, and fix the filter frame to the slot.

RESIDUAL TIME DISPLAY

When the START/HOLD button is pressed, the residual time (min.) is displayed on the time indicator, and it will be counted down according to process.
When operation is finished, the TIME INDICATOR will light up .

DRAIN MOTOR

STRUCTURE

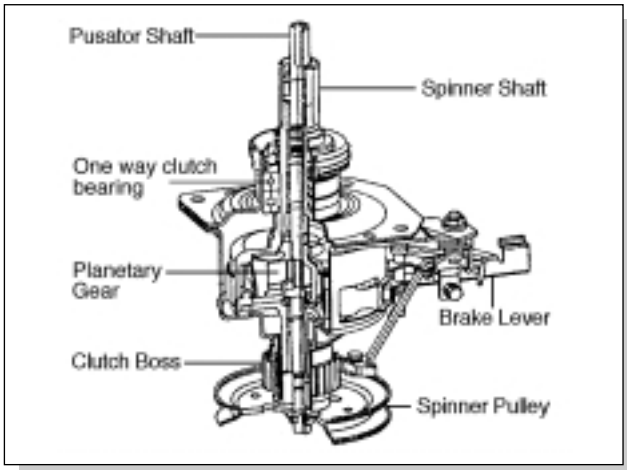


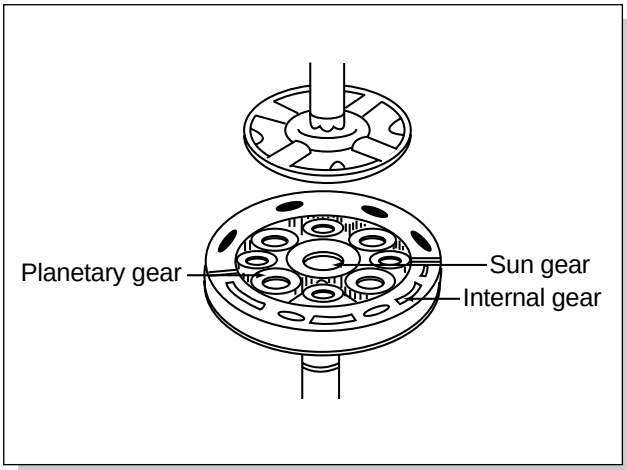
FUNCTIONAL PRINCIPLE

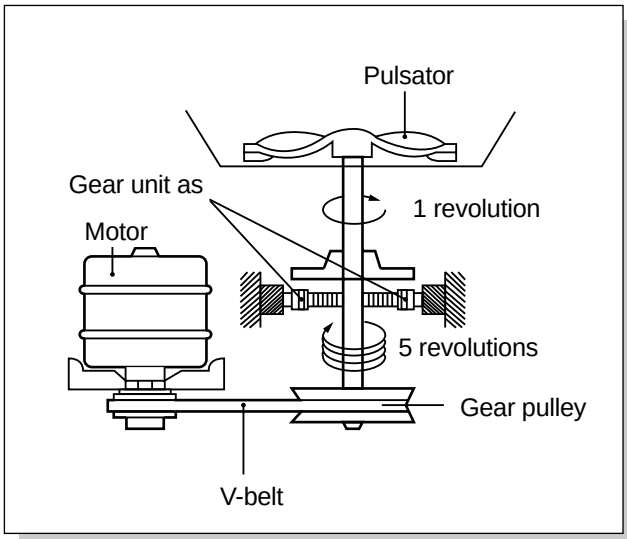
① When the DRAIN MOTOR connected to the power source, the DRAIN MOTOR rotates with 900 r.p.m and revolves the pulley by gear assembly for reducing.
② When the pulley is rotated, the pulley winds the wire to open the drain valve.
③ Therefore, rotation of pulley changed to the linear moving of wire.
④ The wire pulls the brake lever of Gear Mechanism Ass'y within 5 seconds.
⑤ After the wire pulled, gear assembly is separated from motor and condition of pulling is held by operation of the lever.
⑥ When the power is turned off, the drain valve is closed because the wire returns to original position.

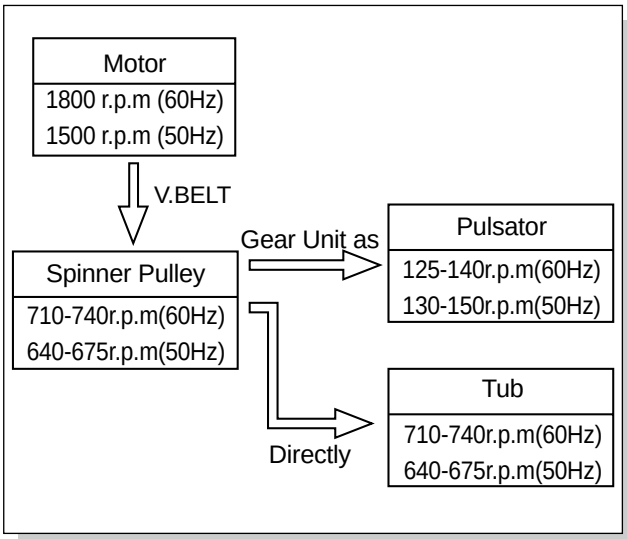
GEAR MECHANISM ASS'Y

The proper water currents is made by the rotation of pulsator at a low speed to prevent the damage to the small sized clothes.









5. DIRECTIONS FOR DISASSEMBLY AND ADJUSTMENT

Warning

BEFORE ATTEMPTING TO SERVICE OR ADJUST ANY PART OF THE WASHING MACHINE, DISCONNECT THE POWER CORD FROM THE ELECTRIC OUTLET.

GEAR MECHANISM ASS'Y REPLACEMENT

GEAR MECHANISM ASSY REPLACEMENT

① Raise the top plate on the outer cabinet.
② Loosen four screws mounting outer tub cover and remove outer tub cover from the tub ass'y.

③ Remove the cap pulsator from the pulsator assy by using screw driver

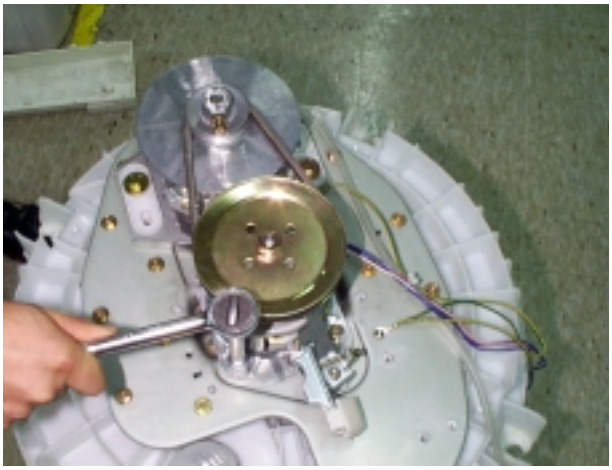
④ Loosen the pulsator mounting screw and remove the pulsator.

⑤ Remove the special nut by using "T" type box wrentch.
⑥ Remove the special washer.

⑦ Remove the tub i assy.

⑧ Lay the front of the washer on the floor.
⑨ Remove four special bolts of gear protect by using a box wrentch and remove gear protect.
⑩ Remove the V-belt.

⑪ Remove four special bolt of gear mechanism assy by using a box wrentch.



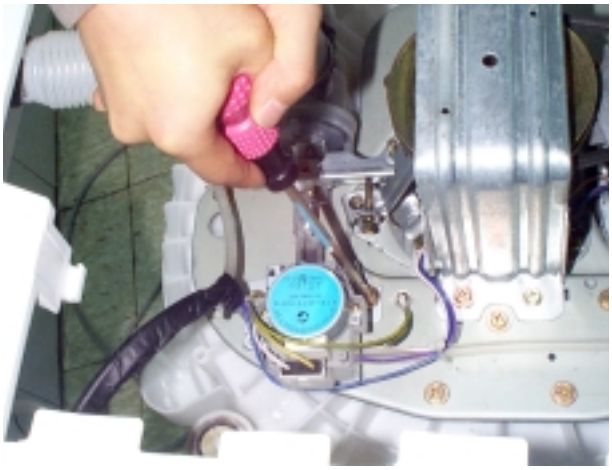
⑫ Pull out the gear mechanism assy.

NOTES

To assemble the gear mechanism ass'y, reverse the disassembly procedure.

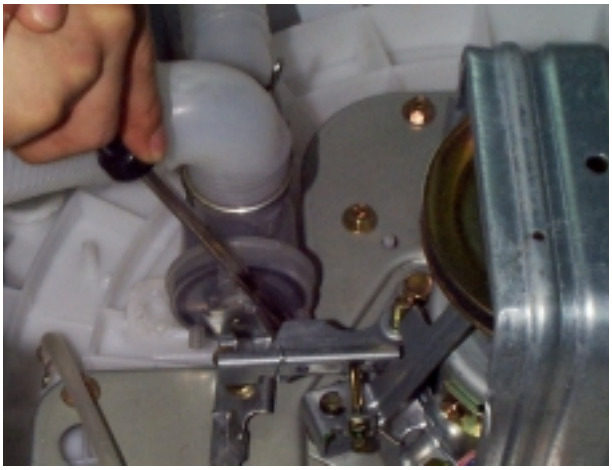
MOTOR SYNCHRONOUS AND VALVE REPLACEMENT (NON PUMP MODEL)

① Lay the front of the washer on the floor.
② Loosen two special screw of motor synchronous.



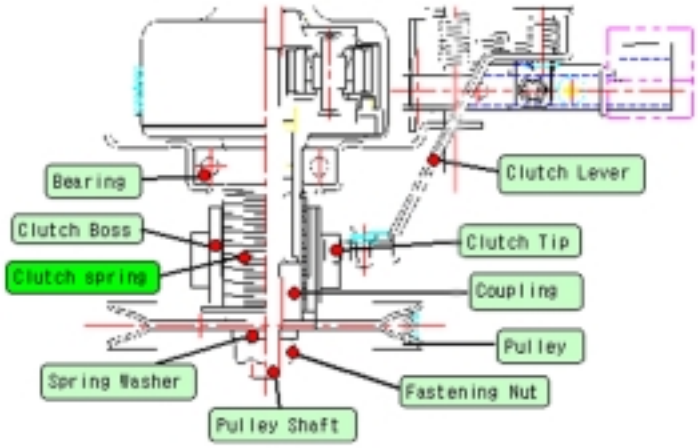
③ Take out the wire of motor synchronous from the braket.
④ Separate the motor synchronous from the base.

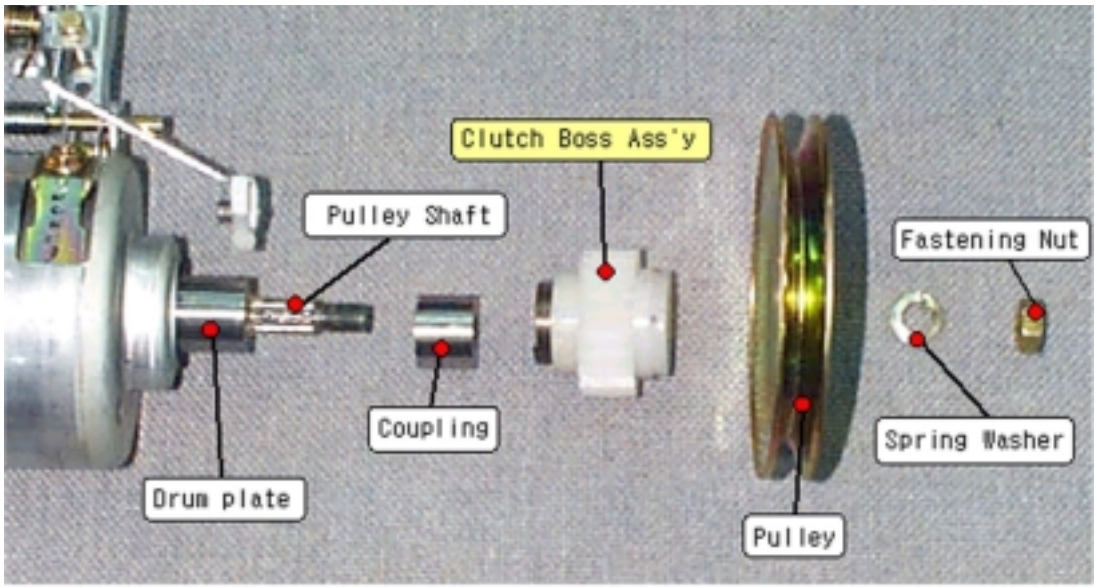
⑤ Turn the valve by using screw driver as shown in picture.



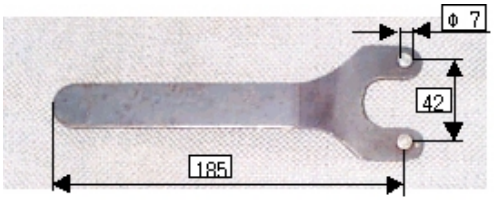
⑥ Remove the valve lid from the valve drain assy.

THE STRUCTURE OF GEAR MECHANISM





● ALTERNATIVE TOOL FOR REPLACING THE CLUTCH BOSS ASSEMBLE ●

Tool name	Specification	Q'ty
Fixing jig		1
Ratchet handle		1
Socket and extension bar	socket : 10mm, 17mm	per each
Some cotton yarn		some

HOW TO CHECK THE CLUTCH SPRING PROBLEM

PROBLEM

1) THE LAUNDARY IS IN THE SPIN TUB UNEVENLY WHEN JUST STARTING SPIN PROCESS.

2) THEREFORE, IT CAUSE THE SERIOUS NOISE AND VIBRATION WHEN WASHING AND SPINNING PROCESS OR SUPPLING WATER IRREGULARY WHEN SPINNING PROCESS AND CAUSE SHORT OF SPIN PERFORMANCE.

CHECKING METHOD

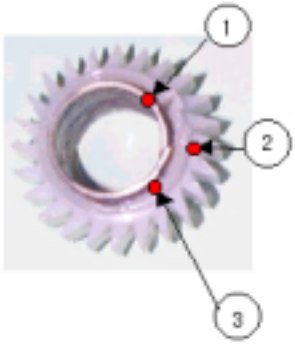
IN THIS CASE, YOU MUST EMPTY THE SPIN TUB FIRST.

1) TO CHECK THE REVOLUTION OF SPIN TUB. IF THE SPIN TUB DOES NOT REVOLVE AND ONLY THE PULSATOR IS TURNING, THAT IS CLUTCH SPRING DEFECT.

2) TO CHECK THE SPIN SPEED(RPM) BETWEEN SPIN TUB AND PULSATOR.
IF YOU FIND THE DIFFERENT SPIN SPEED BETWEEN SPIN TUB AND PUSATOR, THIS IS ALSO CLUTCH SPRING DEFECT.

IN THIS CASE, WE ARE GOING TO SUPPLY THE CLUTCH BOSS ASSEMBLY INSTEAD OF GEAR MECHANISM ASSEMBLEY. PLEASE REFER TO FOLLOWING FIG.

THE CLUTCH BOSS ASSEMBLY

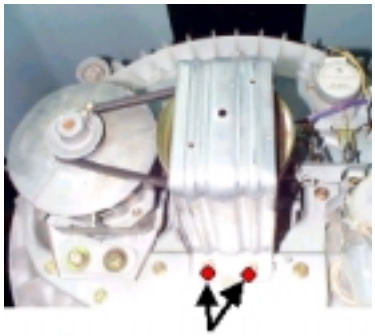
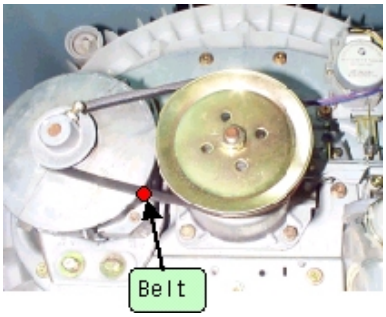
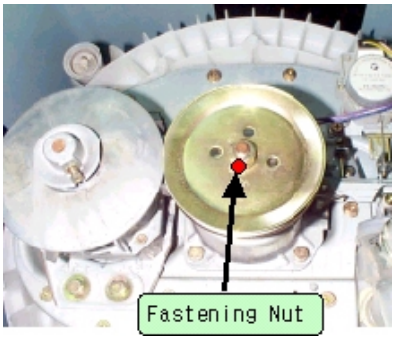
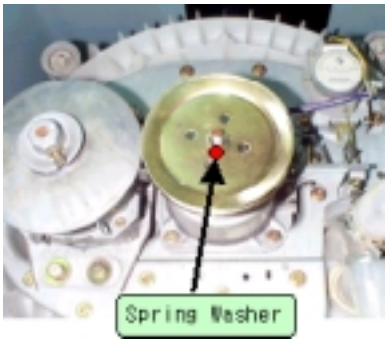


NO.	PARTS NAME	SPECIFICATION	CODE	Q'TY
1	CLUTCH SPRING	1.5*1.5	3615110000	1
2	CLUTCH BOSS	PP	3619301300	1
3	GREASE	beacon#325 3g		
PACKING METHOD	PACKING THE CLUTCH BOSS ASS'Y BY USING VINYL PACK			1

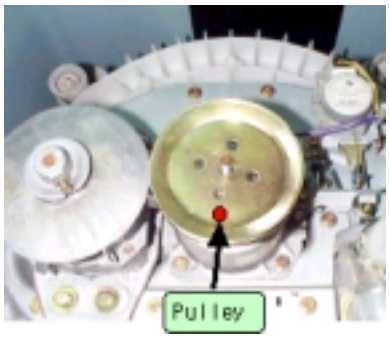
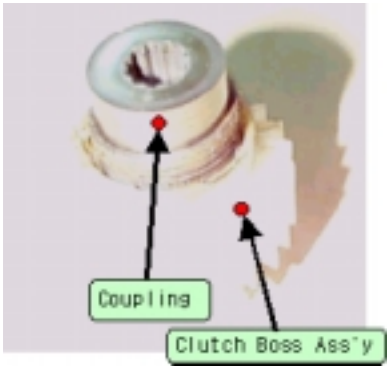
CLUTCH BOSS ASS'Y PART CORD : 3619301400

THE PROCESS OF DISASSEMBLE

Disassemble 1

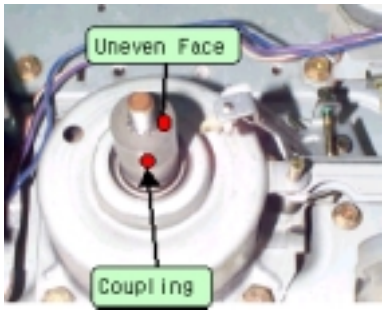
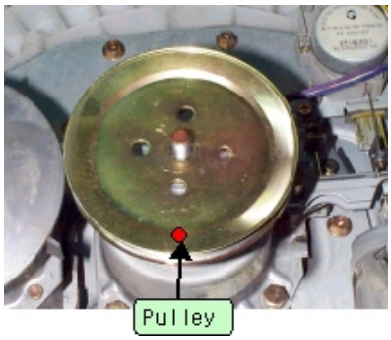
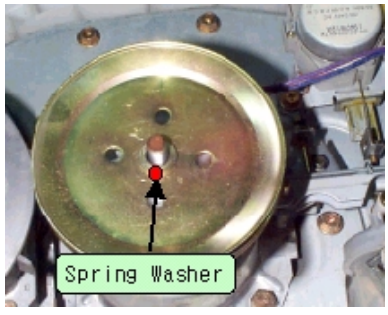
No.	Process		Notice
1	 Release screws marked 4-point	Remove the protector	Use wrench or driver - ratchet handle - extension bar - socket : 10mm
2		Remove the v-belt	
3		Loosen the fastening nut	Use fixing jig for pulley as to see fig 1. and 17mm-socket for nut
4		Disassemble the spring washer	Take out plain washer if it has

Disassemble 2

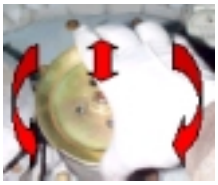
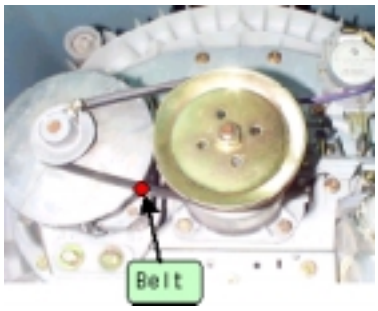
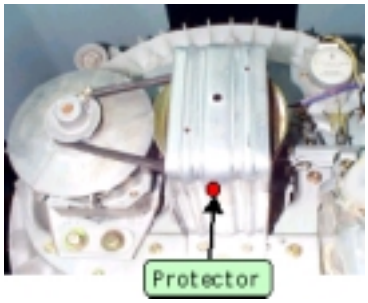
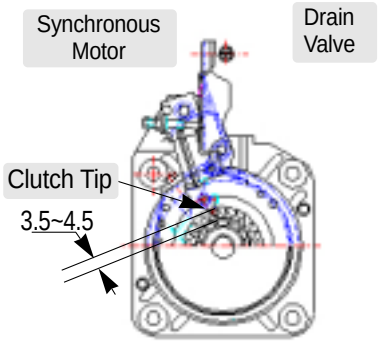
No.	Process		Notice
5		Disassemble the pulley	
6		Disassemble the clutch boss assembly	Catch the boss and pull upward with spiral rotate in the clockwise direction
7		Separate coupling from clutch boss ass'y	
8		Cleaning	Clean the drum plate, coupling surface and contact face between drum plate and coupling It is necessary to keep cotton piece goods being dry and clean

THE PROCESS OF ASSEMBLE

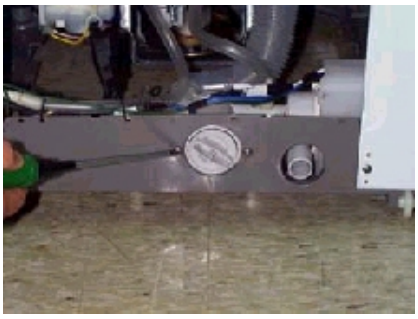
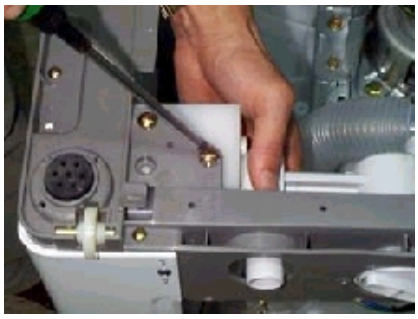
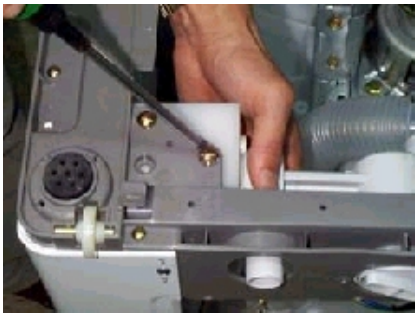
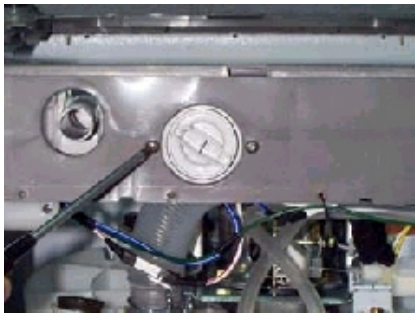
Assemble 1

No.	Process		Notice
1		Assemble the coupling	Check the uneven face of coupling is assembled upward
2		Assemble the new clutch boss ass'y	- Push in the clutch boss ass'y with rotating on the clockwise direction. - After assembling, rotate on the clockwise more 2~3 teeth and pull out the pulley shaft upward
3		Assemble the pulley	
4		Assemble the spring washer	If there was plain washer, you have to assemble plain washer the first and then assemble spring washer

Assemble 2

No.	Process		Notice
5		Assemble the fastening nut	- Use fixing jig and 17mm socket wrench as if disas-sembling, as fastening torque about 100~200kgf-cm. - Check the end-play, up and downward and check the binding force, too much or not on bi-direct of rotation. 
6		Assemble the Belt	
7		Assemble the protector	
8		Final checking	Finally, check the interferance depth both clutch tip and clutch boss(3.5~4.5mm)

REPLACE THE CASE FILTER ASS'Y

① Separate the back cover from washing machine	② Remove two screws	③ Remove three screws
		
④ Turn the case filter ass'y and separate it from the drain motor	⑤ Separate the drain hose i from the case filter ass'y	⑥ Separate the cavitation hose from the case filter ass'y
⑦ Assemble the case filter ass'y that purchased	⑧ Tie up three screws	⑨ Tie up two screws
		
⑩ Assemble the hose drain I to the case filter with bond & clamp	⑪ Assemble the cavitation hose to the case filter with bond & clamp	⑫ Assemble the back cover to the washing machine

NOTES

1. When replace the P.C.B. ASS'Y do not scratch the surface of the P.C.B. ASS'Y.
2. Disconnect the power cord from the electric outlet.

CONCERNING WATER SUPPLY

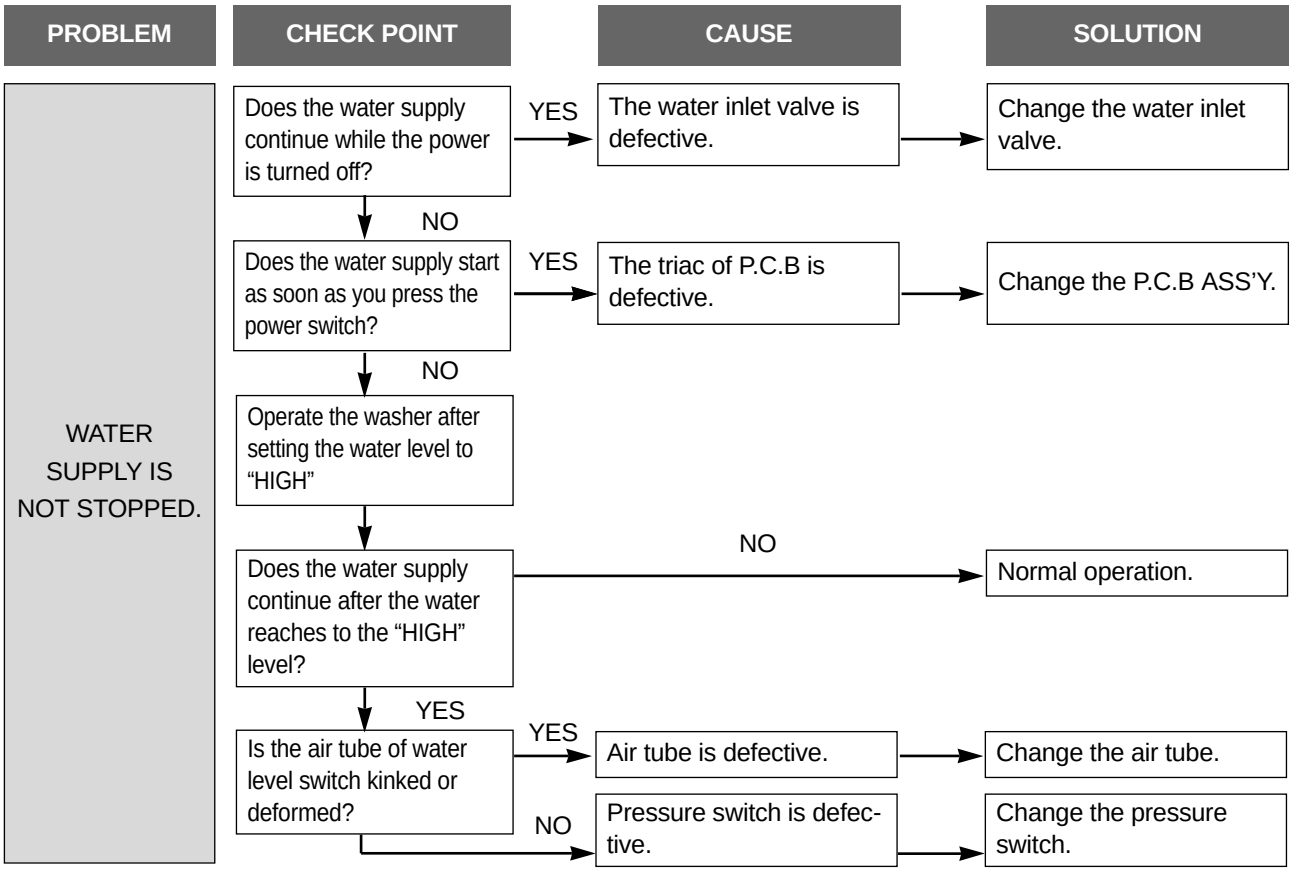
PROBLEM	CHECK POINT	CAUSE	SOLUTION
WATER IS NOT SUPPLIED.	Do you open the water tap?	NO	Open the water tap.
	Is the filter of the water inlet valve clogged with dirt?	YES	Clean the filter.
	Is the water pressure sufficient? (0.3~8 kgf/cm²)	NO	Increase the water pressure.
	Does the water inlet valve make operating sound?	NO	Water inlet valve is defective. → Change water inlet valve.
	Is the connector or the terminal connected properly?	NO	Improper connection of the connector or the terminal. → Connect the connector or the terminal properly.
	Is the output voltage of the P.C.B normal?	NO	P.C.B AS is defective. → Change the P.C.B AS.
		YES	Lead wire is defective. → Change the lead wires.

YES

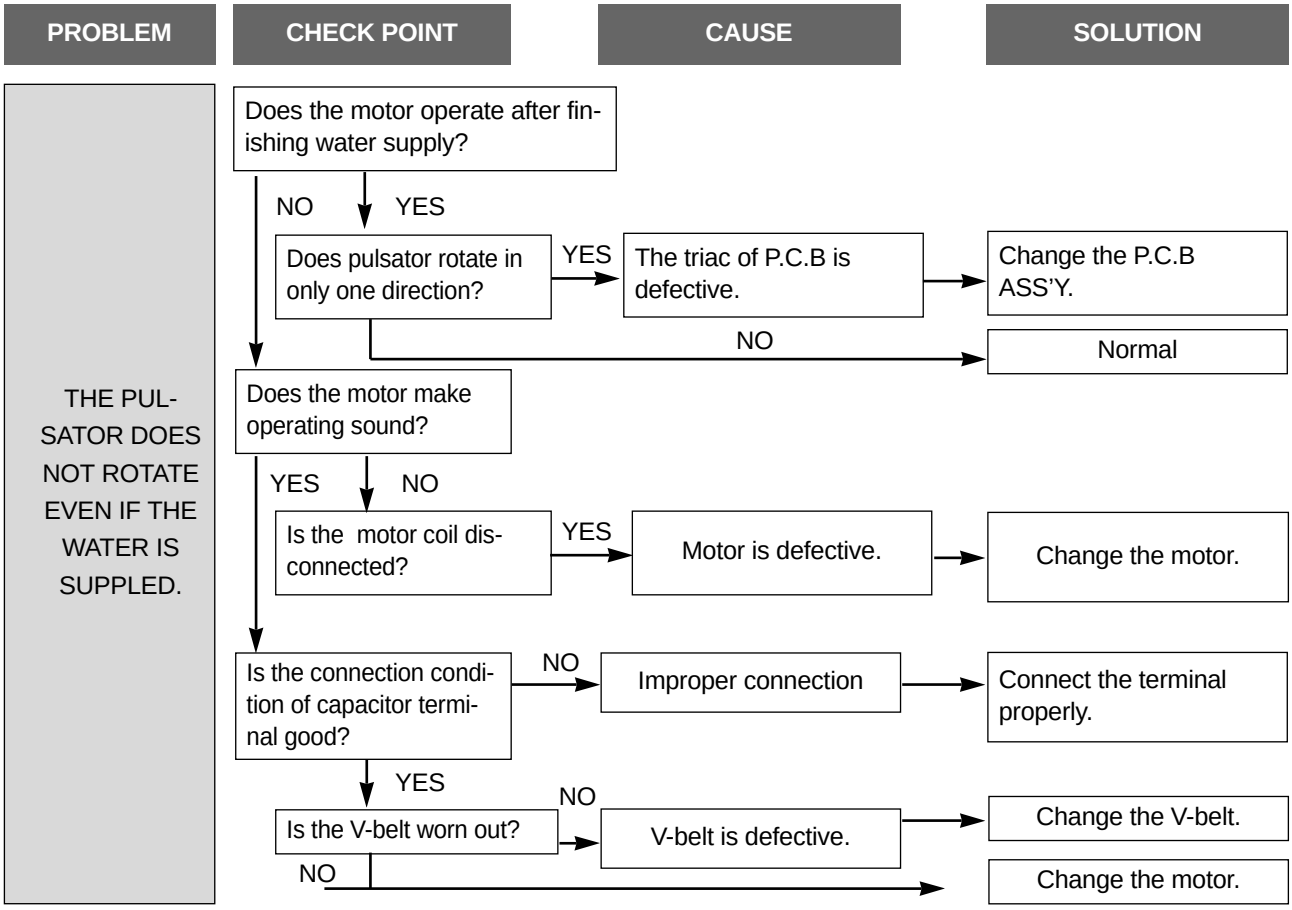
NOTE : Open the water tap fully and measure the flow rate.

Flow rate(ℓ/min.)	11.5	15.0	18.0	20.3	24.1	27.4
Water pressure (Kgf/cm²)	0.3	0.4	0.5	0.6	0.8	1.0

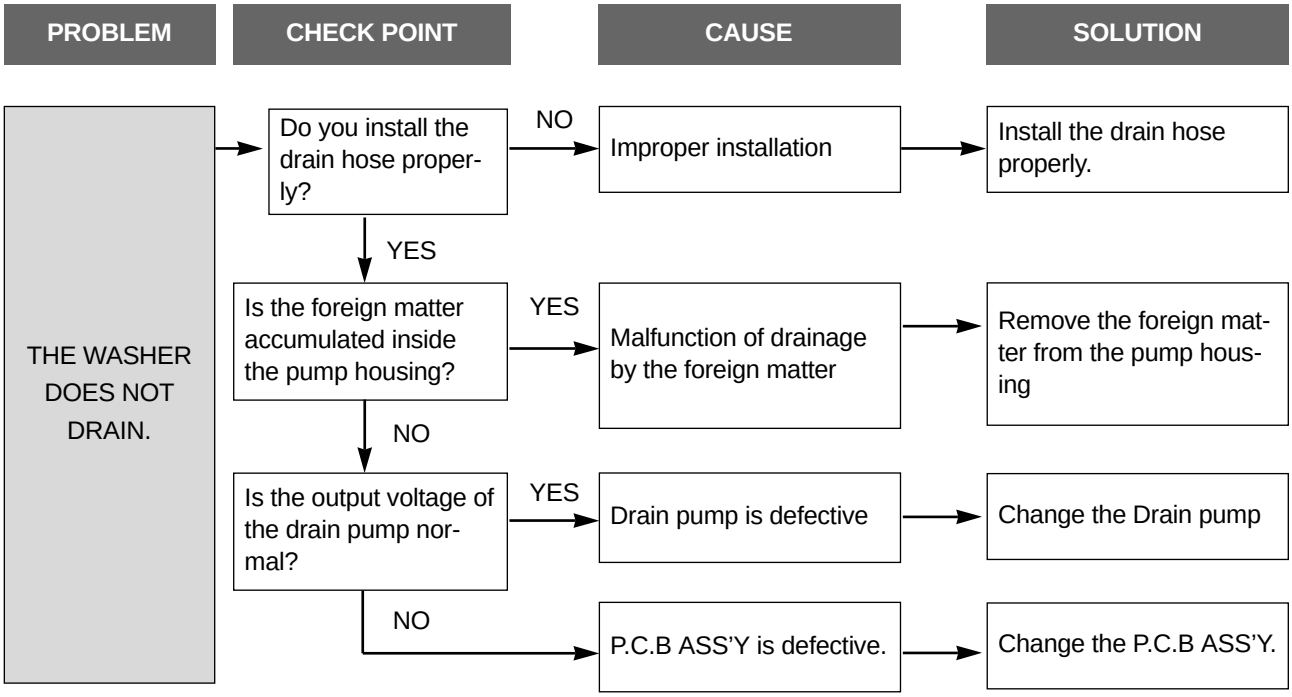
From the upper results, you know that the flow rate more than 11.5ℓ/min. is essential for water supply.


PROBLEM
CHECK POINT
CAUSE
SOLUTION
WATER SUPPLY IS NOT STOPPED.
Does the water supply continue while the power is turned off?
YES
The water inlet valve is defective.
Change the water inlet valve.
NO
Does the water supply start as soon as you press the power switch?
YES
The triac of P.C.B is defective.
Change the P.C.B ASS'Y.
NO
Operate the washer after setting the water level to "HIGH"
Does the water supply continue after the water reaches to the "HIGH" level?
NO
Normal operation.
YES
Is the air tube of water level switch kinked or deformed?
YES
Air tube is defective.
Change the air tube.
NO
Pressure switch is defective.
Change the pressure switch.

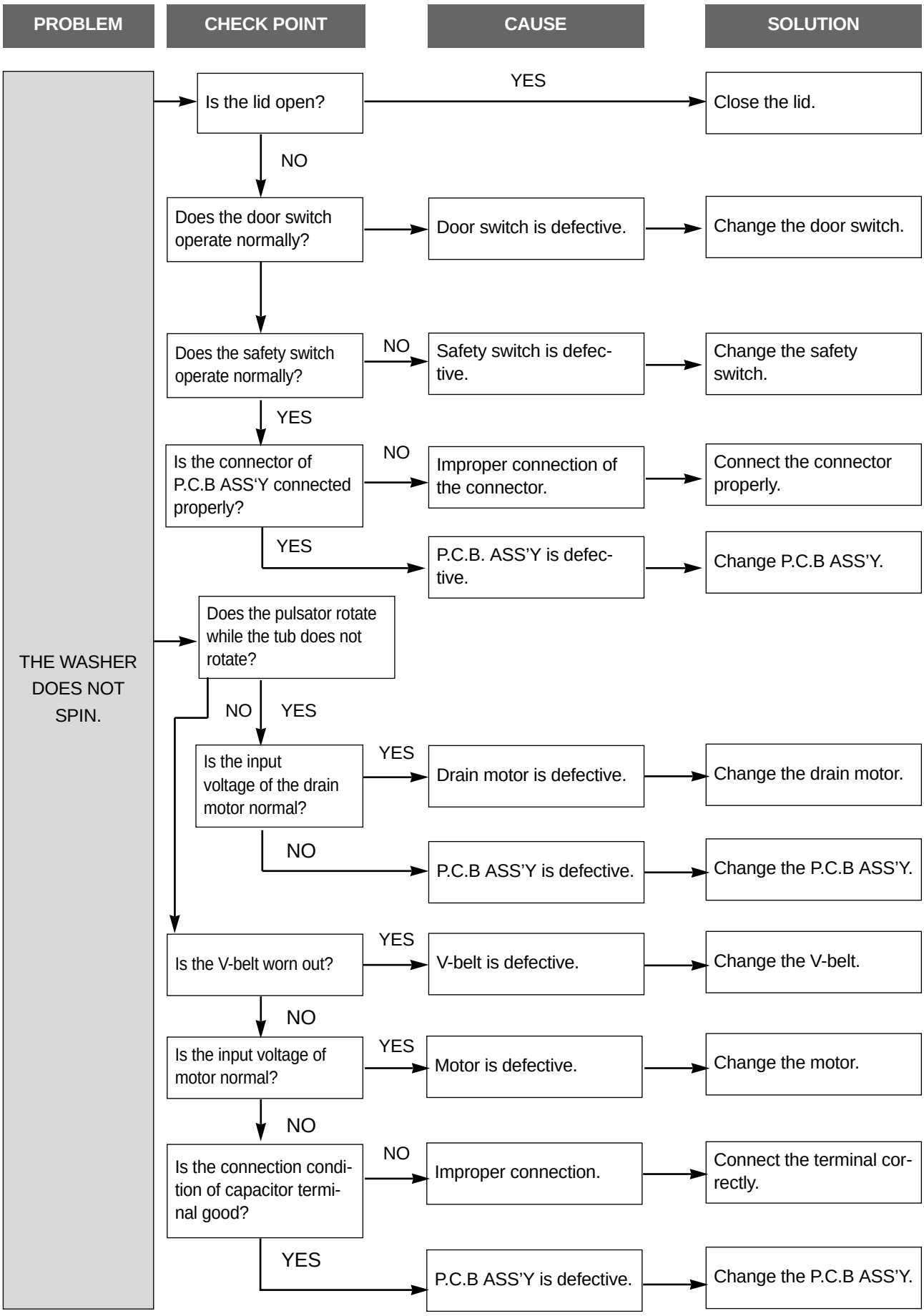
CONCERNING WASHING



CONCERNING DRAINING



CONCERNING SPINNING



CONCERNING OPERATION

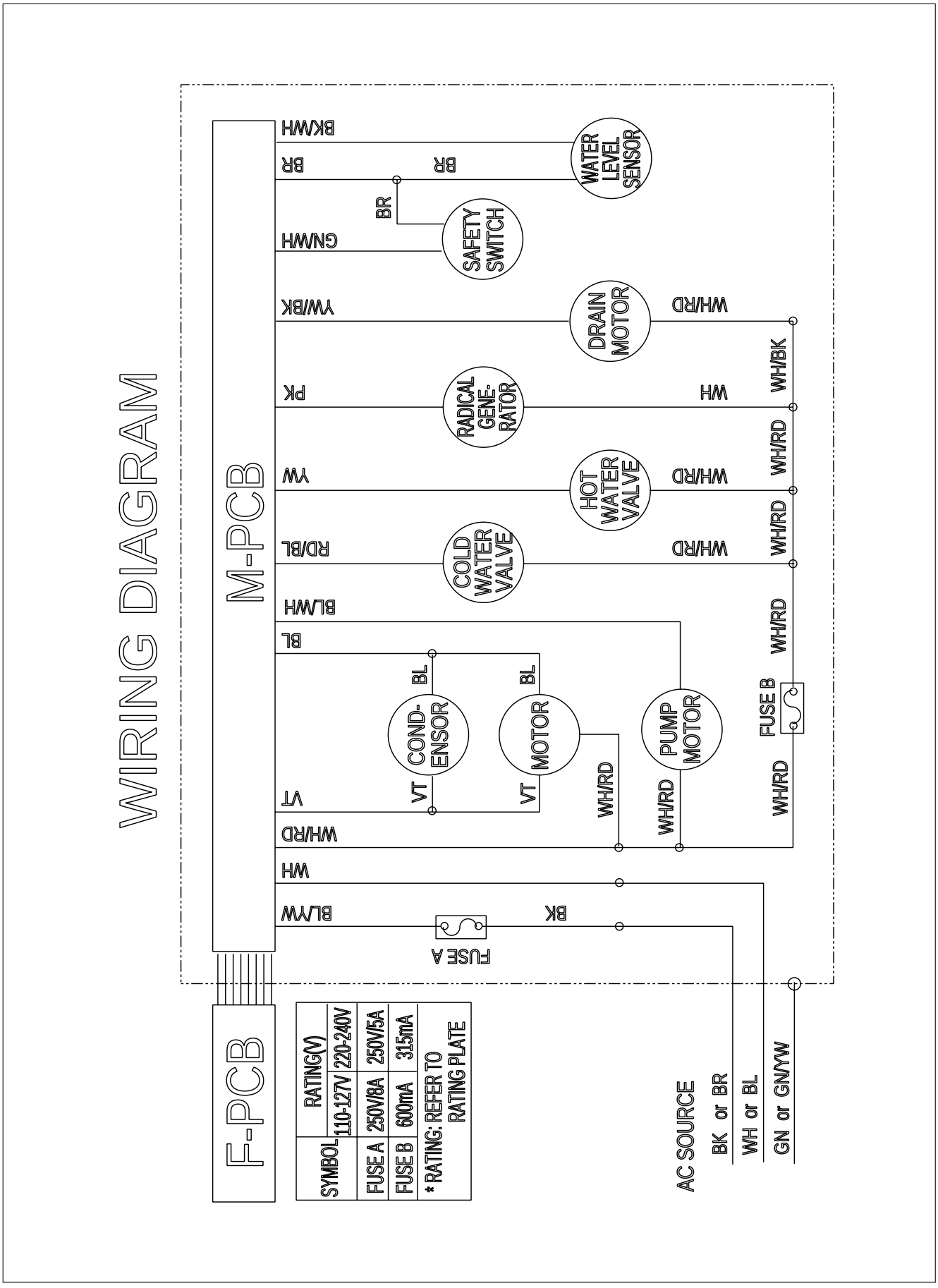
PROBLEM	CHECK POINT	CAUSE	SOLUTION
THE INDICATOR LAMPS(L.E.D) DO NOT LIGHT UP WHEN THE POWER BUTTON IS PRESSED.	Is the plug connect-ed to electric outlet?	NO	Connect the plug.
	Is Fuse opended?	YES	Change Fuse
	Is the condition of power button good?	NO → Power button is defective	Change P.C.B ASS'Y.
	Is the connector of the P.C.B. ASS'Y connect-ed properly?	NO → Improper connection of the connector.	Connect the connector properly.
	Is input voltage of the transformer normal?	NO → Transformer is defective	Change P.C.B Ass'y
		P.C.B. ASS'Y is defec-tive.	Change P.C.B ASS'Y.
PROGRESS LAMPS(LED) DO NOT LIGHT UP.	Do you press START/HOLD button?	NO	Press START/HOLD but-ton.
		YES → P.C.B ASS'Y is defective.	Replace P.C.B ASS'Y.
MOTOR ROTATES WHEN START/HOLD BUTTON IS NOT PRESSED.	Does the pressure switch operate normally?	NO → Pressure switch is defec-tive.	Change the pressure switch.
	Check the output voltage of P.C.B ASS'Y	Abnormal → P.C.B ASS'Y is defective	Change P.C.B ASS'Y.
ABNORMAL NOISE DURING WASH PROCESS.	Is the strange noise gen-erated when the pulsator rotates in TEST MODE of P.C.B ASS'Y?	YES → There is foreign matter between pulsator and tub.	Remove the foreign mat-ter.
	Is the V-belt worn out?	YES → V-belt is defective.	Change the V-belt.

8. PRESENTATION OF THE P.C.B ASS'Y

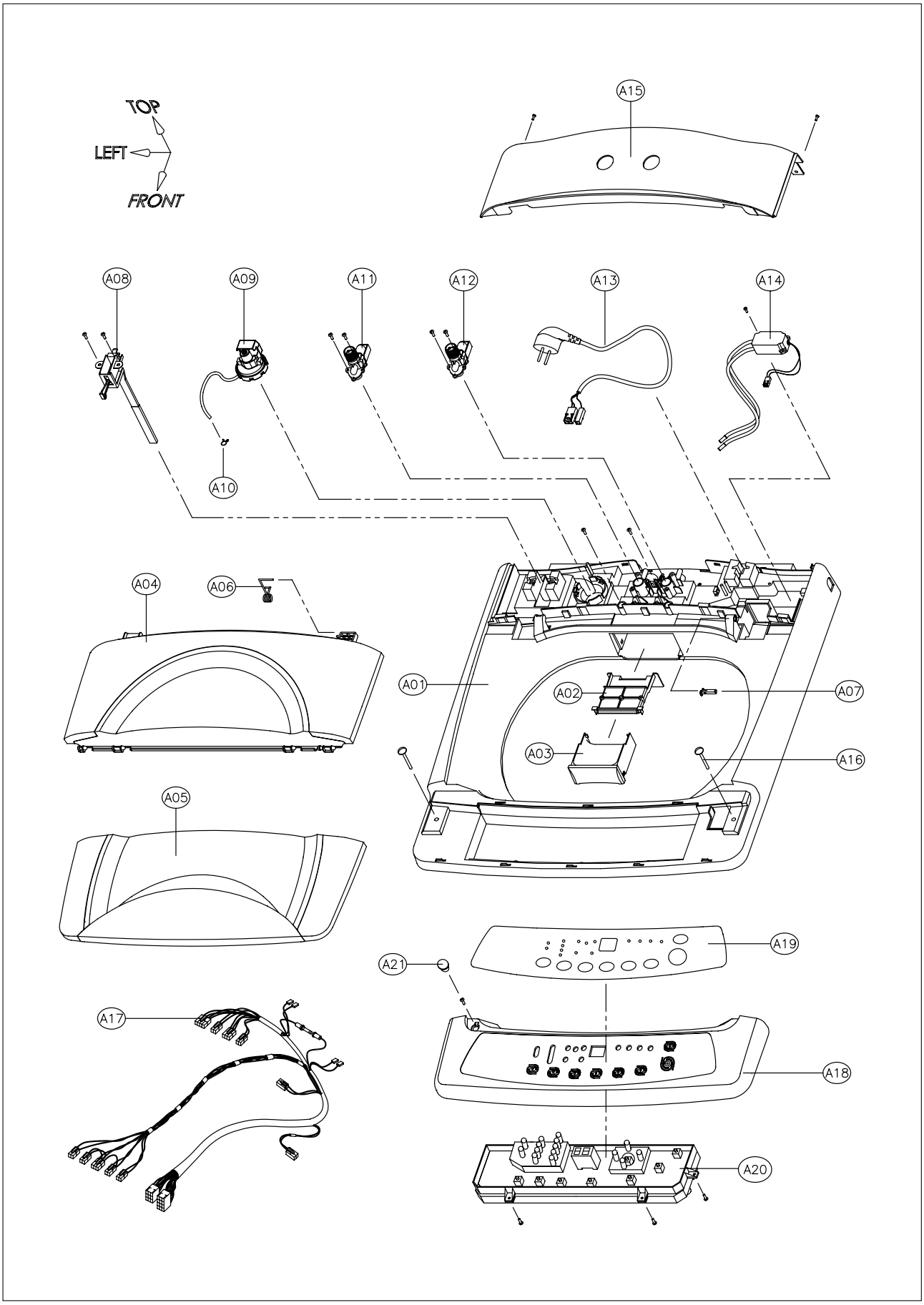
CONCERNING ERROR MESSAGE

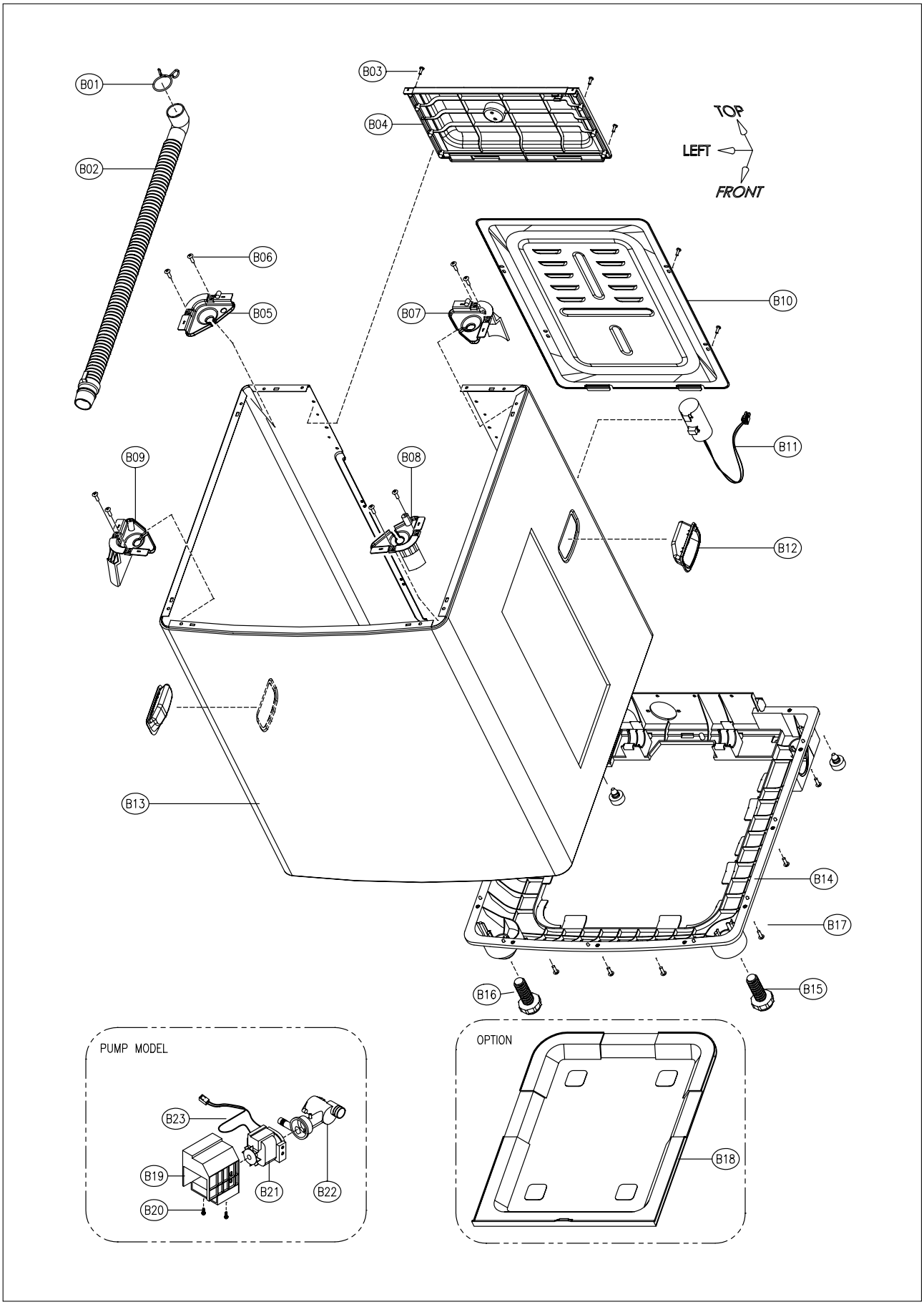
MESSAGE	CAUSE	SOLUTION
	Improper installation of drain hose.	Install drain hose properly.
	The drain hose is blocked up by foreign matter.	Remove foreign matter from drain hose.
	Drain motor is inferior.	Change drain motor.
	The water tap is closed.	Open the water tap.
	The water inlet filter clogged.	Clean the water inlet filter.
	It passes over the 60 minutes, yet it doesn't come to assigned water level.	Check whether or not is comes to the assigned water level.
	Wash loads get uneven during spin.	Re-set wash loads evenly.
	Poor installation of the unit.	Proper installation.
	The lid is opened.	Close the lid.
	The safety switch is inferior.	Change the safety switch.
	The load sensing is inferior. After the load sensing operates about 7 seconds, the message is displayed during 0.5 second and water level is always fixed 'high'.	Change the P.C.B. ASS'Y.
	The water level sensing is inferior.	Check the water level sensor and the contact part of the connector.

[PUMP]


WIRING DIAGRAM
M-PCB
F-PCB
BK/WH
BR
GN/WH
YW/BK
PK
YW
RD/BL
BL/WH
BL
VT
WH/RD
WH
BL/YW
WATER LEVEL SENSOR
SAFETY SWITCH
DRAIN MOTOR
RADICAL GENE-RATOR
HOT WATER VALVE
COLD WATER VALVE
COND-ENSOR
MOTOR
PUMP MOTOR
FUSE A
FUSE B
WH/RD
WH/BK
WH/RD
WH/RD
WH/RD

PARTS DIAGRAM




B01
B02
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B04
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LEFT
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B06
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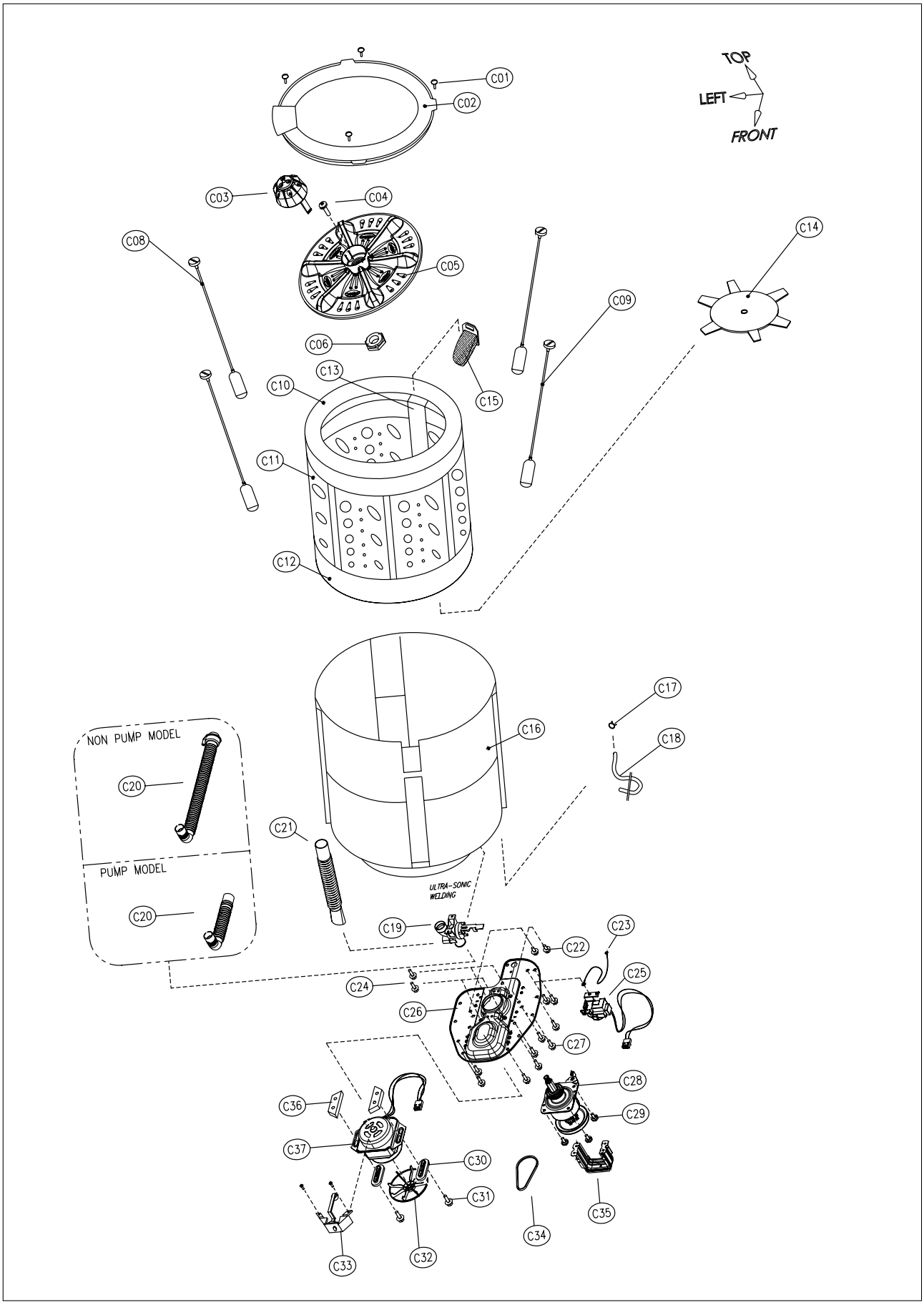
B12
B13
B14
B17
B16
B15
PUMP MODEL
B23
B19
B21
B22
B20
OPTION
B18


TOP
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C29
C30
C31
C32
C33
C34
C35
C36
C37
NON PUMP MODEL
PUMP MODEL
ULTRA-SONIC WELDING

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PARTS LIST

NO.	PART NAME	PARTCORD	SPECIFICATION	Q'TY	NOTE
A01	PLATE T	3614519300	PP	1	
A02	NOZZLE DETERGENT	3618102400	PP	1	
A03	CASE DETERGENT	3611119600	PP	1	
A04	DOOR B AS	361A100800	ABS	1	
A05	DOOR F AS	361A100700	ABS	1	
A06	SPRING	3615111210	DWF-850M, D=2.0	1	
A07	HINGE DOOR	3612902400	POLYACETAL	1	
A08	SWITCH SAFETY	3619006381	SF-030P, CU/T=9, #187	1	
		3619003171	SF-030A3, CU/T=14, #187		
		3619003191	SF-030A5, CU/T=14, #187		
A09	SENSOR PRESSURE AS	3614802321	CDL-D04N	1	
A10	CLAMP	4507D08150	MFZN HOSE ID=Ø7	1	
A11	VALVE INLET(H)	3615403610	AC110-130V/60Hz 270°	1	
		3615403811	AC220-240V/50Hz 270°		
		3615402110	AC220V/60HZ 270°		
A12	VALVE INLET(C)	3615403530	AC110-130V/60Hz 90°	1	
		3615403731	AC220-240V/50Hz 90°		
		3615402030	AC220V/60HZ 90°		
A13	POWER CORD AS	3611302820	A-VCTFK 2X0.75 2.3M BK	1	TAIWAN
		3611304610	N LFC-3R 3X0.752.3M GY		AUSTRALIA
		3611304710	F H05W 3X0.75 2.3M WH		CHILE
		3611304810	RW-300/500 3X0.75 2.3M		CHINA
		3611304910	VCTF 3X0.75 2.3M		INDIA
		3611305310	H05W-F 3X0.75 2.3M WH		MALAYSIA
		3611305410	H05W-F 3X0.75 2.3M BK		SINGAPOLE
		3611305810	H05W-F 3X0.75 2.3M GY		SOUTH AFRICA
		3611305610	F H05W 3X0.75 2.3M BK		USSR
		3611306030	H05W-F 3X0.75 2.3M GY		ARGENTINA
		3611305110	3X0.75 2.3M		KOREA
A14	ASSY RADICAL GENERATOR	36100E2E00	100VSNH, 100-110, 806, L700	1	
		36100E2E11	220VSNH, 220/60, 1806, L=770		
A15	PANEL B	3614277200	ABS	1	
A16	SCREW TAPPING	7112503011	T1S TRS 5X30 MFZN	2	
A17	HARNESS AS	3612789800	110V, NON PUMP, SINGLE VALVE	1	WITHOUT RADICAL FUNCTION
		3612789810	110V, NON PUMP, SINGLE VALVE		WITH RAPICAL FUNCTION
		3612789820	220V, NON PUMP, SINGLE VALVE		WITHOUT RAPICAL FUNCTION
		3612789830	220V, NON PUMP, SINGLE VALVE		WITH RAPICAL FUNCTION
		3612789840	220V, NON PUMP, DUAL VALVE		WITHOUT RAPICAL FUNCTION
		3612789850	220V, NON PUMP, DUAL VALVE		WITH RAPICAL FUNCTION
		3612789860	110V, PUMP, DUAL VALVE		WITHOUT RAPICAL FUNCTION
		3612789870	110V, PUMP, DUAL VALVE		WITH RAPICAL FUNCTION
		3612789880	220V, PUMP, DUAL VALVE		WITHOUT RAPICAL FUNCTION
		3612789890	220V, PUMP, DUAL VALVE		WITH RAPICAL FUNCTION
A18	PANEL F	3614277100	ABS	1	
A19	DECORATOR PANEL F	3611625300	PC FILM/3M	1	

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NO.	PART NAME	PARTCORD	SPECIFICATION	Q'TY	NOTE
A20	PCB AS	PRPSSWXC41	110V, PUMP, DUAL VALVE	1	WITH RADICAL FUNCTION
		PRPSSWXC42	220V, PUMP, DUAL VALVE		WITH RADICAL FUNCTION
		PRPSSWXC43	110V, PUMP, DUAL VALVE		WITHOUT RADICAL MEX.
		PRPSSWXC44	220V, PUMP, DUAL VALVE		WITHOUT RADICAL FUNCTION
		PRPSSWXC45	110V, NON PUMP, DUAL VALVE		WITH RADICAL FUNCTION
		PRPSSWXC46	220V, NON PUMP, DUAL VALVE		WITH RADICAL FUNCTION
		PRPSSWXC47	110V, NON PUMP, DUAL VALVE		WITHOUT RADICAL FUNCTION
		PRPSSWXC48	220V, NON PUMP, DUAL VALVE		WITHOUT RADICAL FUNCTION
		PRPSSWXC49	110V, NON PUMP, SINGLE VALVE		WITH RADICAL FUNCTION
		PRPSSWXC50	220V, NON PUMP, SINGLE VALVE		WITH RADICAL FUNCTION
		PRPSSWXC51	110V, NON PUMP, SINGLE VALVE		WITHOUT RADICAL FUNCTION
		PRPSSWXC40	220V, NON PUMP, SINGLE VALVE		WITHOUT RADICAL FUNCTION
A21	CAP REAR	3610902600	CR	1	
B01	CLAMP	4501F06120	SWPA2 ZN8-C D34	1	NON PUMP
		3611202200	HSW3 PE-LD		PUMP
B02	HOSE DRAIN O AS	3613213560	1089CTE, L=950MM	1	NON PUMP
		3613218800	PE-LD/EVA, L=1600MM		PUMP
B03	SCREW TAPPING	7122401211	TRS 4X12 MFZN	4	
B04	PLATE UPPER	3614514600	PP	1	
B05	SUPPORTER TUB BL	3615302931	FRPP(5203G6)	1	
B06	SCREW TAPPING	7112401211	T1 TRS 4X12 MFZN	8	
B07	SUPPORTER TUB BR	3615302921	FRPP(5203G6)	1	
B08	SUPPORTER TUB FR	3615302901	FRPP(5203G6)	1	
B09	SUPPORTER TUB FL	3615302911	FRPP(5203G6)	1	
B10	COVER B	3611414010	372X508X0.4T SGCC	1	
B11	ASSY CONDENSER	3618921500	54.0uF+60uH L=470 #250	1	110V/60Hz
		3618921900	41.6uF+60uH L=470 #250		127V/60Hz MEX
		3618921000	13.5uF+60uH L=470 #250		220V/50HZ,60Hz
		3618913740	11.4uF+60uH L=470 #250		240V/50Hz
B12	HANDEL CABINET	3612603300	PP	2	
B13	CABINET AS	3610809501	PAINTING(0.6)	1	
	BASE U AS	3610388700	850M	1	
B14	BASE U	3610388300	PP	1	
B15	LEG ADJUST AS	3617702120	SCREW (4*14)	1	
B16	LEG FIX	3617702300	THERMAL PLASTIC ELASTOM	3	
B17	SCREW TAPPING	7112401211	T1 TRS 4X12 MFZN	12	
B18	COVER UNDER	3611402711	PP-M/B	1	
B19	COVER PUMP	3611405320	PP(B360F)	1	
		3611405301	UL/CSA(466FWU, HFH-400)		
B20	SCREW TAPPING	7112501611	T1 TRS 5X16 MFZN	2	
B21	MOTOR SHADED POLE	3618957310	AC 110-127V/60Hz	1	
		3618957280	AC 220V/60Hz		
		3618957250	AC 220V/50Hz		
		3618957220	AC 240V/50Hz		
B22	FILTER AS	3611901530	DWF-5591DPNF E-TYPE	1	

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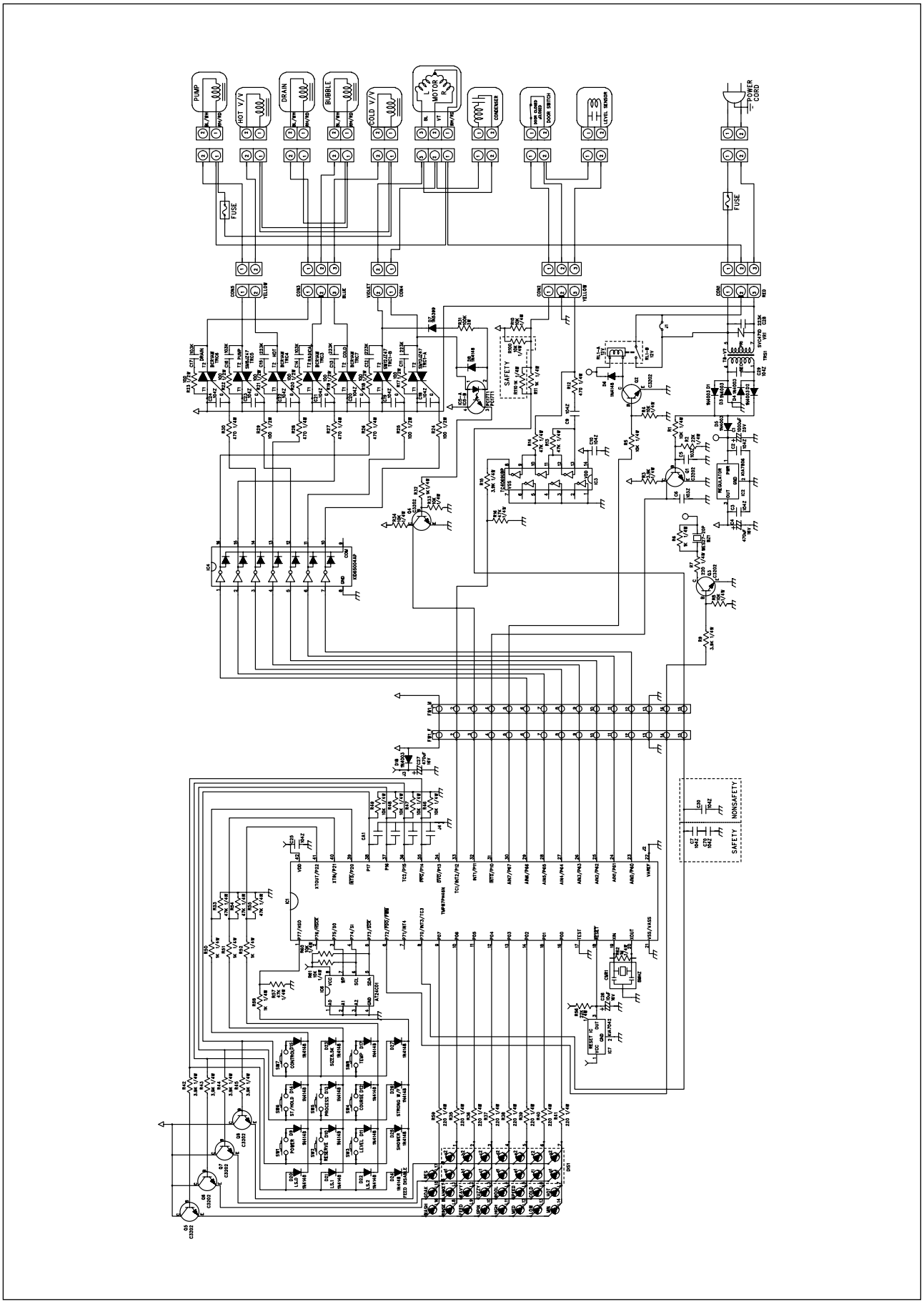
NO.	PART NAME	PARTCORD	SPECIFICATION	Q'TY	NOTE
C01	SCREW TAPPING	7122401611	T2S TRS 4X16 MFZN	4	
C02	COVER TUB O	3611408500	PP	1	
C03	CAP PULSATOR	3610910600	PP	1	
C04	SPECIAL SCREW	3616003720	SUS 6X26.5	1	
C05	PULSATOR AS	3619705800	PP DWF-850M	1	
C06	SPECIAL NUT	4507D83080	SUS 304	1	
C08	SUSPENSION AS	3619805600	SP=120, LD=606	2	WHITE
C09	SUSPENSION AS	3619805700	SP=111, LD=606	2	BLUE
C10	BALANCER AS	3616105500	850M	1	
C11	TUB I	3618816200	SUS	1	
C12	TUB U	3618816101	PP-M/B	1	
C13	GUIDE FILTER AS	3612508300	850M	2	
		3612509800	MAGIC FILTER	1	3611905300 FILTER
C14	FLANGE TUB	3612701200	10KG, 3-FOOT	1	
C15	FILTER AS	4505E82002	PP 94'S(74X130X130)	2	
C16	TUB O	3618802630	PP	1	
C18	HOSE	4500D08210	ID=4.0	1	
C19	VALVE DRAIN AS	3615408400	100M	1	ONLY NON PUMP
C20	HOSE DRAIN I AS	3613218500	LDPE+EVA L=219.5	1	NON PUMP
	HOSE DRAIN I	3613212100	LDPE+EVA L=184	1	PUMP
C21	HOSE OVERFLOW	3613208901	PE-LD L=280mm	1	NON PUMP
C22	SPECIAL BOLT	7341601611	6B-16X16 MFZN	2	
C23	HARNESS EARTHINNER	3612757010	L=560mm	1	
C24	SPECIAL SCREW	3616006900	SCM24H 6.5X18	4	
C25	MOTOR SYNCHRONOUS	3618957610	110-130V/50, 60HZ KD-DW11B	1	MEX.
		3610070110	220-240V/50, 60HZ KD-DW22B		
C26	BASE	3610387400	SECEN 2.0T 1		
C27	SPECIAL SCREW	3616007000	SCM24H 6.5X24	12	
C28	GEAR MECHANISM	3617307610	GM-1300-KS6P0	1	
C29	BOLT HEX	7341801511	6B-1 8X15 MFZN	4	
C31	BOLT HEX	7650802011	6B-1 8X20 PW(2X25) MFZN	2	
C32	PULLEY MOTOR AS	3618401400	M-TYPE DS=10 DP=48.5	1	60 Hz
		3618401420	M-TYPE DS=10 DP=53.0		50 Hz
C33	BODY BUBBLE AS	3610402902	98SERIES, HOSE L=780mm	1	
C34	BELT V	3616590220	M20.5, AGING	1	60Hz
		3616590230	M21, AGING		MEX.
C35	PROTECTOR GEAR	3618301300	SBHG 1.6T	1	
C36	CUSHON DOWN	3611502700	POM 8mm	2	
C37	MOTOR CONDENSER	3964221110	110-120V/60Hz W1D46CA012	1	110V/60Hz
		3964821210	120-127V/60Hz W1D46JA012		120-127V/60Hz MEX.
		3964311310	220-240V/50Hz W1D46VA012-S		220-240V/50Hz
		3964321110	220V/60Hz W1D46UA012		220V/60Hz

CIRCUIT DIAGRAM



686, AHYEON-DONG MAPO-GU SEOUL, KOREA
C.P.O. BOX 8003 SEOUL, KOREA
TELEX: DWELEC K28177-8
CABLE: “DAEWOOELEC”

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